

**AMENDMENTS TO THE CLAIMS:**

Please amend the claims in this application as follows:

1. (Currently Amended) A measuring electrode arrangement for electroimpedance tomography, comprising:

at least one measuring electrode for electrically connecting to contacting of a measurement object through a contact medium, said measuring electrode being arranged at a distance from an area of contact at which a surface location of the measurement object is to be contacted by the contact medium;

a space located between the measuring electrode and the area of contact the surface location of the measurement object, said space being filled with the [[a]] contact medium;

a storage space located on the side of the measuring electrode facing away from the area of contact measurement object, the storage space containing a contact medium for reducing the electric contact resistance between the measuring electrode and the measurement object, the measuring electrode being at least partially permeable for the contact medium in the storage space, the contact medium in the storage space containing ions in a solvent in solution, and wherein the ions can penetrate through the measuring electrode, and the measuring electrode is impermeable for the solvent.

2. (Previously Presented) The measuring electrode arrangement according to Claim 1, wherein the solvent of the contact medium is a liquid, a gel, a foam or a paste.

3. (Currently Amended) The measuring electrode arrangement according to Claim 1, wherein an adhesive layer is arranged on at least one surface ~~the side~~ of the measuring electrode arrangement ~~facing the measurement object~~ in order to attach the measuring electrode arrangement to the measurement object.

4. (Previously Presented) The measuring electrode arrangement according to Claim 1, wherein the storage space is bordered by a plastic layer.

5. (Previously Presented) The measuring electrode arrangement according to Claim 1, further comprising at least one electric shield which comprises an electrically conductive material and is electrically insulated with respect to the measuring electrode.

6. (Previously Presented) The measuring electrode arrangement according to Claim 5, further comprising a plurality of measuring electrodes that are electrically insulated with respect to one another.

7. (Previously Presented) The measuring electrode arrangement according to Claim 6, further comprising a plurality of shields that are electrically insulated with respect to one another, each shield being arranged on one of the measuring electrodes.

8. (Previously Presented) The measuring electrode arrangement according to Claim 6, further comprising a common electric shield for the measuring electrodes.

9. (Currently Amended) The measuring electrode arrangement according to Claim 5, wherein the shield is located on the side of the measuring electrode facing away from the area of contact ~~measurement object~~.

10. (Currently amended) The measuring electrode arrangement according to Claim [[5]] 6, wherein the measuring electrodes are mounted on a belt-like electrode carrier, wherein the electrode carrier is extensible for adjusting the electrode spacing.

11. (Previously Presented) In a method of electroimpedance tomography, the improvement comprising:

- (a) providing a measuring electrode arrangement according to any one of Claims 1 - 10,
- (b) securing the measuring electrode to the measurement object, and
- (c) applying an electrical impulse to the measurement object.

12. (Previously Presented) The measuring electrode arrangement according to claim 1, wherein the at least partially permeable measuring electrode is imperforate in a region extending across the storage space.

13. (Currently Amended) A measuring electrode arrangement for electroimpedance tomography, including at least one measuring electrode for electrically connecting to contacting of a measurement object through a contact medium at an area of contact, a storage space arranged on the side of the measuring electrode facing away from the area of contact on the opposite side of the measuring electrode from the area of contact so that the measuring electrode separates the storage space from the area of contact at which a measurement object is to be contacted measurement object, the storage space containing a contact medium for reducing the electric contact resistance between the measuring electrode and the measurement object, the measuring electrode being at least partially permeable for the contact medium contained in the

storage space so as to assure continuing reduced resistance electrical contact between the measuring electrode and the measurement object through the contact medium.